

Computer Science

ANALYSIS AND 3D VISUALIZATION OF MULTIPLE TROPHIC CASCADE SCENARIOS,

Joshua M. Cook, Matthew J. Knox, Brian J. Krent, Randy R. Appleton*, Northern Michigan University,
Department of Mathematics and Computer Science, Marquette, MI 49855, rappleton@nmu.edu

In this work we analyze the behaviors of multiple trophic cascade scenarios in simulated ecosystems. Extending upon previous work (cf. "3D Visualization of Simulated Trophic Cascades", Christopher E. Wells, 2008), we exhaustively search numerous subsets of the problem space by adding or removing different organisms, adjusting initial quantities of interacting agents, and altering several other environmental aspects. We accomplish this by refining and parallelizing the existing codebase for a cluster computer. Further, we examine the resulting data through extensive visualization.